Ham-Space Digest   Fri, 3 Dec 93   Volume 93 : Issue   98

Today's Topics:
                      * SpaceNews 29-Nov-93 *
             Control of Amateur Satellites (2 msgs)
                    Welcome to rec.radio.info!

Date: Mon, 29 Nov 1993 09:49:46 MST
From: pacbell.com!sgiblab!darwin.sura.net!math.ohio-state.edu!news.cyberstore.ca!
nntp.cs.ubc.ca!unixg.ubc.ca!kakwa.ucs.ualberta.ca!ersys!adec23!ve6mgs!
usenet@network.ucsd.edu
Subject: * SpaceNews 29-Nov-93 *
To: ham-space@ucsd.edu

SB NEWS @ AMSAT $SPC1129
* SpaceNews 29-Nov-93 *

BID: $SPC1129

                           =========
                           SpaceNews
                           =========

                    MONDAY NOVEMBER 29, 1993

SpaceNews originates at KD2BD in Wall Township, New Jersey, USA. It is published every week and is made available for unlimited distribution.

* KITSAT-OSCAR-25 NEWS *
=========================
KO-25 Operation Status Report 13 (24-Nov-93)

1. General

Kernal and other OBC186 S/Ws are all loaded and running well. Spacecraft is showing healthy condition. Battery is being discharged very small amount compared to KO-23. Still using TX0 as it is showing very good performance.

2. Experiments Carried Out

2.1 CCD Earth Imaging System

Two camaras onboard are showing good pictures of Earth. The Black and white high resolution (200 meter) camera is showing excellent pictures. The color camera with low resolution (2 kilometer) is also showing great images after some color mapping process. Other than the color imager's gain control difficulty, the camera system is working well and taking pictures everyday.

2.2 InfraRed Sensor Experiment (IREX)

IREX has been on since the beginning of the KO-25 operation. This experiment is to acquire I/V characteristics of IR sensors. Passive cooling structure was devised for this experiment and currently we are monitoring the temperature of this cooling system.

3. Experiments on the way

3.1 KASCOM (KAIST Satellite Computer)

The initial check out is on the way. A SaTReC developed multitasking kernel and long-term memory test task are to be commenced the initial test.

3.2 DSPE

38.4 kbps Downlink booster is being developed by utilizing DSPE. Protocol test is still being carried out on the ground.

3.3 LEED (Low Energy Electron Detector)

After sufficient time for outgassing period, in December this device will be turned on.

4. Other Information

The uplink to KO-25 will not be available currently. It will be open with KO-25 BBS service after the system check out completion. Some of the good pictures from KO-25 will be released through KO-23 for the time being.

For more info contact:

hskim@satrec.kaist.ac.kr
FAX) +82 42 861 0064
Tel) +82 42 869 8614
SaTReC, KAIST

[Info via Hyung Shin Kim]

* MICROSAT ANTENNA POLARIZATION *
==================================
There has been a certain amount of confusion concerning the sense of the polarization of the Microsat downlinks. The following by Jim White, WD0E, is an attempt to clarify the situation.

The two transmitters in each Microsat are connected to a canted turnstile downlink antenna through a hybrid. The two input ports they are connected to are out of phase with each other. When one transmitter is on, the sense of the downlink will be RHCP, and when the other is on, it will be LHCP. When controllers switch transmitters, they also switch polarization sense. No sense is "normal". During construction there was no attempt to make a particular transmitter a particular sense. The limiting factor was how to fit the semi-rigid cables connecting all the various parts together in the tiny space inside the transmitter module. Additionally, since one of the objectives of the Microsat Project was to create satellites that could be used with very simple portable ground stations using simple omni-directional antennas, there was no need to be concerned about polarization sense.

When receiving with a circularly polarized ground station antennas, miss-matched sense can make several dB of difference at times. The most strongly circular signal (or the one with the lowest eccentricity) will be received by the ground station when the bottom of the satellite is pointed directly at it. For stations at about 35 to 50 degrees north or south latitude, this occurres when the satellites are directly overhead and slightly lower in latitude. For all but LO-19, the turnstile is pointed down in the northern hemisphere. For LO-19, it's down in the southern hemisphere. At other times the sense is effected by a variety of other

influences and cannot be relied on.

If you have a circularly polarized Yagi with switchable sense you can
perform a test to see which transmitter provides which polarization.
Throughout a pass, but particularly when the satellite is nearly overhead,
switch sense every few seconds and see which is stronger. At times you will
notice a large difference (AO-16 is 5 S units different on a TS811). The
sense that consistantly provides the strongest signal over the majority of
the pass is the sense of the downlink for that transmitter. And for all
but DOVE, it also correlates to beacon frequency, since the 70 cm
transmitters are all on different frequencies.

DOVE is a special case since it's two transmitters are on nearly the same
frequency. To make the correlations on DOVE you would need to do the same
test as above, but also check which transmitter is in use as indicated by
the STATUS line. We normally run TX#2 on DOVE because it is more efficient.

The following provides beacon frequency and polarization sense for all the
Microsat satellites:

WO-18:
437.075 PSK LHCP (this TX is bad and not normally used)
437.100 RC RHCP (normally in use)

LO-19:
437.153 PSK LHCP
437.125 RC/CW RHCP

AO-16:
437.025 PSK LHCP (not presently in use)
437.050 RC RHCP (in use now)

DO-17:
145.825 TX#1 LHCP
145.825 TX#2 RHCP (normally used, and in use now)

[Info via Jim White, wd0e@amsat.org]

* CHINA ON SATELLITES *
========================
The Tsinghua University Amateur Radio Club of Beijing, China is happy to
report that the Chinese Radio Sports Association has provided them with
some OSCAR satellite ground station equipment that they may use for
approximately 6 months in an effort to become active on amateur satellites.
The equipment consists of a Yaesu FT-726 dual-band transceiver, a crossed
Yagi antenna, a 70cm amplifier, a receive preamplifier, and the elevation/
azimuth rotor system. Walter OE2CAL, an Austrian amateur noted in Europe

for his V/UHF activities, and Dieter DJ7BU are scheduled to join the radio
club in their efforts ot install the antenna system which has been delayed
due to snowy weather. Both men are currently working in Beijing.

The students at the Tsinghua University Amateur Radio Club are new to OSCAR
operations and are trying very hard to get a station on the air from China.
The club is currently in need of satellite reference manuals, books, and
satellite tracking software that can help them get on the air.

Information pertinent to satellite operation should be directed to Rick Niu,
BY1QH, via any of the following paths:

   Packet: BY1QH @ JA5TX.JPN.AS
Internet: Contact gateway_request@arasmith.com for more info
 Airmail: Rick Niu
          Public Relations Manager TUARC
          Room 316 Building 25
          Tsinghua University
          Beijing 100084, China

* THANKS! *
===========
Thanks to all those who sent messages of appreciation regarding SpaceNews,
especially:

          BY1QH   VE1AXJ   ZS2LR   K7EA   OH8UV   WD9IYT

* FEEDBACK/INPUT WELCOMED *
===========================
Mail to SpaceNews should be directed to the editor (John, KD2BD) via any
of the following paths:

FAX   : 1-908-747-7107
PACKET   : KD2BD @ N2KZH.NJ.USA.NA
INTERNET : kd2bd@ka2qhd.ocpt.ccur.com -or- kd2bd@amsat.org

MAIL   : John A. Magliacane, KD2BD
           Department of Engineering and Technology
           Advanced Technology Center
           Brookdale Community College
           Lincroft, New Jersey 07738
           U.S.A.

      <<=- SpaceNews: The first amateur newsletter read in space! -=>>

/EX

--
John A. Magliacane, KD2BD   * /\/\ * Voice   : 1-908-224-2948
Advanced Technology Center |/\/\/\| Packet : KD2BD @ N2KZH.NJ.USA.NA
Brookdale Community College |\/\/\/| Internet: kd2bd@ka2qhd.ocpt.ccur.com
Lincroft, NJ 07738   * \/\/ * Morse   : -.- -.. ..--- -... -..

Date: Tue, 30 Nov 1993 23:11:39 +0000
From: munnari.oz.au!bruce.cs.monash.edu.au!harbinger.cc.monash.edu.au!msuinfo!
agate!howland.reston.ans.net!pipex!warwick!uknet!demon!cosmo.demon.co.uk!
chris@network.ucsd.edu
Subject: Control of Amateur Satellites
To: ham-space@ucsd.edu

In article <2dc7cg$2sa@qualcomm.com> antonio@qualcomm.com writes:

>For attitude determination, almost all have used sun and earth sensors.
>The UoSat series, built at U. of Surrey, have used flux-gate magnetometers.
>P3D, now under design, and the most ambitious amateur satellite to date,
>is planned to use GPS for attitude determination.
>

As far as I know, GPS is only usable for _orbit_ determination, i.e. location
in space, and _not_ for attitude determination, i.e. which way the satellite
is pointing.

Of course, correct if me if I'm wrong!

Regards,

Chris Payne.

Date: 1 Dec 93 16:59:59
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net
Subject: Control of Amateur Satellites
To: ham-space@ucsd.edu

You are indeed wrong. AMSAT's Phase III-D intends on using GPS to do
attitude determination amongst other things. You need multiple antennas
and then do interferometry but it can be done.

Bob
--

Robert W. McGwier | n4hy@ccr-p.ida.org Interests: ham radio,
Center for Communications Research | scouts, astronomy,and golf
Princeton, N.J. 08520 | ASM Troop 5700, ACM Pack 53 Hightstown
(609)-279-6240(v) (609)-924-3061(f)| I used to be a Buffalo . . . NE III-120

Date: Tue, 30 Nov 1993 21:01:46 MST
From: tribune.usask.ca!kakwa.ucs.ualberta.ca!alberta!nebulus!ve6mgs!bohica!rec-
radio-info@decwrl.dec.com
Subject: Welcome to rec.radio.info!
To: ham-space@ucsd.edu

Archive-name: radio/rec-radio-info/welcome
Last-modified: $Date: 1993/05/16 21:57 $
Version: $Revision: 1.05 $

*** Welcome to rec.radio.info! ***

Welcome to rec.radio.info, a group that aims to provide a noise-free source
of information and news for the entire rec.radio hierarchy.

Two introductory articles about rec.radio.info are posted to the group and
to news.answers every two weeks. You are now reading the first article, which
explains what rec.radio.info is, and answers some Frequently Asked Questions.
The second article is titled "Submission Guidelines", and you only need to
read it if you want to submit an article to rec.radio.info.

You can skip to the next section of this article by searching for the next
" -- " string. The sections available are:
 - What is the purpose of rec.radio.info?
 - Why are messages almost always cross posted to rec.radio.info?
 - What is a 'follow-up', and what does 'moderated' mean?
 - OK, so now I know what 'moderated' means. Tell me more.
 - What type of material is considered inappropriate?
 - I do not have access to news, how can I get the information posted to
   rec.radio.info?
 - Will the material appearing in rec.radio.info be archived somewhere?
 - I have a regular posting with timely information, is there a way to
   speed up it's delivery, or automate for more convenience?

 -- What is the purpose of rec.radio.info?

The purpose or charter of rec.radio.info is to provide the Usenet community with
a resource for information, news, and facts about any and all things radio.

All the other rec.radio groups are intended for discussions and general chit
chat about radio. Rec.radio.info will contain informational, factual articles

only. Follow-ups are redirected to an appropriate other group, and further
discussion (if any) will not take place in rec.radio.info.

In order to ensure that rec.radio.info contains only appropriate articles, it
was decided to create the group as a moderated newsgroup.

 -- Why are messages almost always cross posted to rec.radio.info?

It provides a "tag" for each article to be assembled into a filtered
presentation in rec.radio.info (even with cross-posting, only one message, with
a unique Message-ID, is propogated across the net). This tag also facilitates
a pre-existing method of dropping or cancelling the articles locally within the
discussion groups if you don't want to see them. This accommodates individuals
who want to separate the bulletins from the discussions, discussions from the
bulletins, as well as those who are adamant about not reading another
newsgroup and wanted to see everything all in one basket.

With the total size of Usenet (in number of newsgroups and total traffic)
doubling every year or so, this is no insignificant contribution to reducing
information noise and chaos. Making the discussion groups a catch-all, and
making extra newsgroups filters on that catch-all, is also the most realistic
way to implement such a scheme (It's not intuitively obvious what the charter,
contents, and general appropriate topics for each and every newsgroup are.
Seeing FAQ's and charter/intro postings in the home newsgroup is beneficial
for new readers).

By cross-posting one only is adding a few tens of bytes to each bulletin (to
specify the extra group on the Newsgroups line), but are adding the capability
for very powerful filtering features available on most news servers,
listservers and readers. Your local news guru could probably explain these
features in more detail.

In rn, for example, according to Leanne Phillips in her rn kill-file FAQ, add
a line of the form:
 /Newsgroups:.*[,]rec\.radio\.info/h:j
either in ~/News/KILL (if you don't want to see rec.radio.info articles
anywhere) or ~/News/rec/radio/amateur/misc/KILL (if you don't want to see them
just in rec.radio.amateur.misc). The latter method means your kill file will
only be consulted during rec.radio.amateur.misc (and hence runs more
efficiently), and will probably work for most people.

In nn, according to Bill Wohler in his nn FAQ, add a line of the form:
 rec.radio.info:!s/:^
in ~/.nn/kill (if you don't want to see rec.radio.info articles anywhere), or
put the following lines:
 sequence
 rec.radio.info
 rec.radio.

at the end of ~/.nn/init in order to see all the rec.radio.info bulletins first,
then read the remaining rec.radio.* without the bulletins.

 -- What is a 'follow-up', and what does 'moderated' mean?

If you are new to Usenet and are not familiar with the terminology, you might
want to read the general introductory articles found in the newsgroup
news.announce.newusers. Doing so will make your life on the net much easier,
and will probably save you from making silly beginner's mistakes.

If you think that at this moment you are reading an echo, a conference, or
a bulletin board, I'd also strongly suggest a trip over to
news.announce.newusers.

For the rest of this article, I will assume you have a basic knowledge of
Usenet terminology and mechanics.

A moderated group means that any article that needs to be posted to the group
has to be accepted by the moderator of the group. Since we need to ensure that
followups to an article (discussion) do not show up in the rec.radio.info
newsgroup, the `Followup-To:' header line contains a newsgroup that is
appropriate for disussions about the specific article.

 -- OK, so now I know what 'moderated' means. Tell me more.

Rec.radio.info is a moderated newsgroup, which means that all articles
submitted to the group will have to be approved by the moderator first.

The current moderator of the group is Mark Salyzyn. Submissions to
rec.radio.info can be posted, or e-mailed to:

  rec-radio-info@ve6mgs.ampr.ab.ca

Comments, criticisms, suggestions or questions about the group can be e-mailed
to:
  rec-radio-request@ve6mgs.ampr.ab.ca

But before you do so, please be sure to check out the "Submission Guidelines"
article.

The influence of the moderator should be minimal and of an administrative
nature, consisting chiefly of weeding out obviously inappropriate articles,
while making sure correct headers etc. are used for the appropriate ones.

 -- What type of material is considered inappropriate?

There are three broad categories of articles which will be rejected by the
moderator:

1) Requests for information: rec.radio.info is strictly a one-way street. I
   receive information in my mailbox; I then post it to rec.radio.info.
   Requests for specific information belong in the normal discussion newsgroups.
   If your request gets answered, you might consider passing the answer on to
   rec.radio.info, though. Especially if you can edit it into a informational,
   rather than a discussion, format.

2) Obvious discussion articles, or articles that appear unsubstantiated.

3) Commercial stuff: a relatively unbiased test of a radio product would be
   accepted, but any hint of for-profit might be reason for rejection. For three
   reasons: This is not the purpose of the list, for-profit is a controversial
   topic, and this list may be passed onto Amateur Packet Radio (where
   for-profit is prohibited except under certain provisos).

   rec.radio.swap (or possibly comp.newprod) may be more deserving of the
   posting in any matter.

   Similarly, copyrighted material generally cannot be used. If it's TRULY
   worthwhile to the net, I would recommend obtaining permission from the
   copyright holder. Please note the source, and if permission was given. I
   reserve the right to make the final decision concerning appropriateness in
   all situations. In most cases, a brief summary of, or pointer to, the
   copyrighted information may be all I can allow.

 -- I do not have access to news, how can I get the information posted to
    rec.radio.info?

brian@UCSD.EDU (Brian Kantor) has kindly supplied a mail list server for
rec.radio.info. Non of the articles will be digested, due to their size, so
you will receive individual mailings for every article posted to the group.

Mail sent to radio-info@ucsd.edu will be forwarded to the moderator and
thus is an alias to rec-radio-info@ve6mgs.ampr.ab.ca

To subscribe and unsubscribe via the listserver; the format for that is

 sub address radio-info
 unsub address radio-info

where 'address' is your full mailing address. Send this request to

 listserv@ucsd.edu

Note that the server will automatically delete any address that bounces mail.
If you leave the address portion blank, it will try to deduce your address
from the mail headers. This may not work if you are on bitnet, milnet or

some other non-Unix host, so it is recommended to put your return address
in any case. For example:

  sub mymailbox@myhost.mydomain.mil radio-info
or
  sub MEMEME01@DMBHST.bitnet radio-info

or something like that.

  -- Will the material appearing in rec.radio.info be archived somewhere?

Yes. Still firming up details at the moment but here is a preliminary list:
  - unbc.edu as maintained by Lyndon Nerenberg <lyndon@unbc.edu>
  - nic.funet.fi maintained by Risto Kotalampi <rko@cs.tut.fi>
    saved to /pub/dx/text/rec.radio.info currently stored as
    numbered files.

Effectively this means that anything you post to rec.radio.info will be
permanently stored, so your work will not be lost.

  -- I have a regular posting with timely information, is there a way to
     speed up it's delivery, or automate for more convenience?

Yes, there is! It may take a bit of chatter with the moderator, but we are
willing to take responsible people and provide them the means of posting the
articles directly from their site. We will try everything we can as we fully
realize that DX (distant signal) and astronomical data can be somewhat
transitory. We are also willing to allow regular posters of information the
same courtesy, even if the information is not as time critical.

We refer to this as self-moderation, which is partly based on the model for
news.answer. This requires co-operation and good will to be beneficial to
the community in the rec.radio hierarchy.

I suggest reading the posting guidelines for more information. I am open to
suggestions.

I thank the following individuals for their input into this article:
  rec.music.info moderator Leo Breebaart rec-music-info@cp.tn.tudelft.nl
  rec.radio.broadcasting moderator Bill Pfeiffer wdp@gagme.chi.il.us
  Paul W. Schleck, KD3FU pschleck@unomaha.edu
  Ian Kluft, KD6EUI ikluft@uts.amdahl.com

--
Mark Salyzyn -- Moderator rec.radio.info
Submissions to: rec-radio-info@ve6mgs.ampr.ab.ca
Administrivia to: rec-radio-request@ve6mgs.ampr.ab.ca
* Requests for information do *not* belong in rec.radio.info *

End of Ham-Space Digest V93 #98
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